Sanitized Copy Approved for Release 2011/06/06 : CIA-RDP81-00280R001300180012-7

STAT

Page Denied

Sanitized Copy Approved for Release 2011/06/06 : CIA-RDP81-00280R001300180012-7

Sanitized Copy Approved for Release 2011/06/06 : CIA-RDP81-00280R001300180012-7

STAT

IMMEDIATE DISASTER RESCUE WORK IN A FOCUS OF CONTAMINATION FROM AN ATOMIC BOMB

L. Filippov

Voyennyye znaniya
/Military Knowledge/,
Vol 31, No 6, Moscow,
June 1956, Pages 15-16

The explosion of an atomic or thermonuclear bomb in a city can cause the destruction of many above ground buildings and structures, water systems, gas, electric, and sewage networks, and the contamination of a large number of people.

In taking into account the definite patterns of action of the contaminating factors of an atomic explosion on people and on above ground and underground buildings and structures, the focus of atomic contamination can be divided into 3 conventional zones. This permits one to determine more graphically the character and volume of destruction and the peculiarities of conducting disaster rescue work in each of these zones.

Here are these zones.

First we have the central zone. In it is created the maximum pressure along the front of the blast wave, causing complete destruction of aboveground buildings and structure, destruction or substantial damage to some underground structures and communications, and obstruction of the streets.

Then we have the zone of heavy destruction, in whose area most of the aboveground buildings and structures have been destroyed. Here underground structures can also receive damage; streets and thoroughfares are blocked.

Sanitized Copy Approved for Release 2011/06/06 : CIA-RDP81-00280R001300180012-7

Sanitized Copy Approved for Release 2011/06/06 : CIA-RDP81-00280R001300180012-7

Finally we have the zone of medium destruction. Here multi-story houses are subjected to destruction; few-story buildings also receive strong damage; the streets and thoroughfares are obstructed, many fires break out both as a consequence of the light irradiation and as a result of the destruction of the systems of local heating, short circuits of electric conductors, and accidents at the gas supply networks.

In the remaining territory of the city -- further removed from the center of the explosion -- there will be destruction and second degree damage to building parts such as windows, doors, partitions, roofings, etc.

Under mass destruction conditions it is particularly necessary to deploy rescue workers as rapidly as possible to all areas of the attacked city. The more rapidly and more completely aid to the casualties is rendered, the smaller will be the number of victims among the population.

The group of measures whose fulfillment requires engineering and technical knowledge and methods is customarily called disaster rescue work. This includes the finding and opening up of obstructed shelters and places of cover; the removal of casualties from obstructions and destroyed buildings; the localization of failures in communal public utility networks and temporary repair work on them, ensuring the rescue of people.

The successful accomplishment of disaster rescue work in short periods of time can be achieved only if the city engineering force is prepared in time to conduct rescue work.

To ensure the timely preparation of city engineer units for atomic defenses a system of measures is worked out and instituted.

Sanitized Copy Approved for Release 2011/06/06 : CIA-RDP81-00280R001300180012-7

Sanitized Copy Approved for Release 2011/06/06 : CIA-RDP81-00280R001300180012-7

This system should aim at the fastest and most centralized isolation of damaged city rayons and areas from the general water, gas, and power supply systems; it should also make it possible, when necessary to join individual disconnected networks and systems of the communal economy into a single system, with its feeding ensured from all sources of water and power supply available in the city.

The quality of the so-called executive technical documentation found in the cities on all underground networks and cultural features has great significance. This documentation should ensure the certain identification of the directions of underground communications, the places of their junctures, and manholes.

A first and responsible link in the chain of rescue work in a focus of attack is radiation reconnaissance. It is organized and conducted with the object of preventing mass contamination of the population and also for obtaining data concerning the character of radioactive contamination of the attacked region.

Radiation reconnaissance with the aid of dosimetric devices determines the radioactive contamination of specific points and sections, in the air, in the water, and on various objects; it establishes and controls the level of radiation in contaminated areas and in the first place at sites where casualties are found and rayons where rescue work is conducted. It establishes and designates the boundaries of the contaminated rayon with special signs; it establishes the presence of particularly dangerous areas in them and searches for possible routes skirting contaminated areas in the evacuation of people.

Radiation and engineering reconnaissance not associated with the movement of disaster rescue formations of MPVO [Mestnaya Proti-

Sanitized Copy Approved for Release 2011/06/06 : CIA-RDP81-00280R001300180012-7

Sanitized Copy Approved for Release 2011/06/06 : CIA-RDP81-00280R001300180012-7

vovozdushnaya Oborona -- Local Antiaircraft Defense/ and their transportable materiel are present at the focus of attack and conduct reconnaissance of it until the approach of the basic forces. Engineering reconnaissance determines the volume and boundaries of the destruction, detects the presence of people in obstructed shelters and places of cover, determines the routes of approach to them for materiel and the volume of emergency rescue work.

The fulfillment of large amounts of work pertaining to the clearing of obstructions and the construction of thoroughfares in the center of attack and the brief periods of carrying them out require the active use of all the available pool of construction and highway equipment. The work of these units makes it possible to curtail the periods of disaster rescue work and also to reduce the required quantity of manpower force.

Basically, ordinary construction equipment of various types is used in disaster rescue work.

In the first stage of disaster rescue work contact is established with the casualties and the supply of air is ensured for obstructed shelters and places of cover, whose air supply ducts have been destroyed. The threat of shelters and places of cover being gassed or flooded due to disrupted gas and water supply networks and sewers must be removed. Measures are also taken to prevent the spread of fires in the direction of damaged or obstructed shelters with people in them; threats from damaged buildings liable to collapse are eliminated. Simultaneously the rescue of casualties and their evacuation from the center of attack is conducted.

The clearing of large obstructions over exits from protective structures of MPVO or on the approaches to structures is

Sanitized Copy Approved for Release 2011/06/06 : CIA-RDP81-00280R001300180012-7

Sanitized Copy Approved for Release 2011/06/06 : CIA-RDP81-00280R001300180012-7

accomplished, as a rule, in the direction where the volume of work required is least. In individual cases it is easier to break through to the obstructed shelter via its wall or ceiling than to break up a cumbersome obstruction over the entrance to it or the emergency exit.

In clearing away obstructions, excavators, bulldozers, and cranes are used. The piercing of openings is accomplished with a pneumatic drill.

The extraction of casualties from obstructions and destroyed buildings is a complex and rather laborious process, requiring from the rescue formations of MPVO a large degree of organization, bravery, and resourcefulness.

In the determination of work methods pertaining to the piece-by-piece removal of obstructions or the penetration into obstructions for extracting casualties, the completeness and quality of engineering reconnaissance data has great significance.

In the first stage of the work the exact location of casualties in the obstruction is established; their state is then determined, contact is established with them, the stability (resistance) of the obstruction is studied, and the presence of empty spaces around the casualties is determined; then a decision concerning the methods of rescuing the casualties is quickly made.

The casualties are removed from the obstruction, as a rule, through specially constructed manholes from the direction of the retaining walls and roofs outlining the location of the casualties. In the construction of the manhole at the obstruction, the site of

Sanitized Copy Approved for Release 2011/06/06 : CIA-RDP81-00280R001300180012-7

Sanitized Copy Approved for Release 2011/06/06 : CIA-RDP81-00280R001300180012-7

[illegible] of the casualties is obtained. Special care must be observed under these conditions.

To prevent the collapse of the obstruction, the surface of the manhole must be reinforced. The strengthening is conducted with specially made wooden shields or posts. In case the manhole has breaks (bends), its section at the site of the bend is somewhat widened. At the time of work in an obstruction, passage along it is forbidden, since the far from insignificant supplementary dynamic efforts can disrupt the stability of the obstruction and movement of it can occur.

The manhole constructed in the obstruction in some cases may not be satisfactory due to the fact that the casualty might be pinned down by a large object whose removal may be dangerous. In this case medical aid is rendered to the casualty, at the same time that a decision concerning the construction of the manhole from another direction or concerning the partial removal of the obstruction is made. Removing an obstruction piece by piece is permitted only in those cases when other decisions do not provide the possibility of saving the casualties.

In the organization of rescue work it is necessary to take into account the volume and character of the disturbances of the networks and structures of the communal economy of the city, i.e., water systems, sewage, gas supply, power supply, roads, and bridges. The enumerated branches of the municipal economy do not have identical significance to the rescue work being conducted and according to this characteristic can be divided into 2 groups.

To the first group belong the branches of the municipal economy whose normal work not only facilitates the success of

Sanitized Copy Approved for Release 2011/06/06 : CIA-RDP81-00280R001300180012-7

Sanitized Copy Approved for Release 2011/06/06 : CIA-RDP81-00280R001300180012-7

rescue measures but also often is the deciding factor without which the organization of this work is impossible. To this group belong the road and bridge authorities and the water and power supply agencies.

To the second group belong those branches of the economy whose activity cannot substantially influence the organization of rescue work but whose disruption can evoke a supplementary threat to the population of the stricken city. To this group belong gas supply, sewage, and electrified transport.

The disruption of a large number of aboveground buildings and structures in the attacked city will cause the burying of main thoroughfares. Consequently, in the organization of rescue work, the presence and the direction of the streets and thoroughfares which are less obstructed and therefore make the construction of a thoroughfare along them less laborious, is taken into account.

The lack of assurance of water for the rescue work can cause an increase in the total loss in the stricken city, since the lack of water will paralyze the effort to extinguish fires; it will also hamper the conduct of timely medical treatment of the population which has been receiving radioactive contamination, and the decontamination of equipment and thoroughfares.

The shutting off of disrupted areas of the network and structures of the water system is conducted during the first stage of rescue work. Subsequently the supply of water to the network from the basic water source and, in case of its contamination or destruction, from reserve water sources, is organized.

In the case of the destruction of all available water pumping stations, a temporary hydrant is established.

Sanitized Copy Approved for Release 2011/06/06 : CIA-RDP81-00280R001300180012-7

Sanitized Copy Approved for Release 2011/06/06 : CIA-RDP81-00280R001300180012-7

The presence of electric power at the focus of attack can substantially aid in rescue work not only in the night but also during the day, since it permits the numerous types of construction tools, for which electric power serves as the energy source, to be used for rescue work.

Early preparation of the entire population for atomic defense permits the people promptly to launch countermeasures against atomic devastation; all efforts can be concentrated on the rendering of rapid and thorough aid to the stricken population.

Sanitized Copy Approved for Release 2011/06/06 : CIA-RDP81-00280R001300180012-7